

Appl. No. 10/065,744
Amdt. Dated May 28, 2004
Reply to Office action of March 2, 2003

This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently amended) A heat shield structure for use in sealing of an arc tube, said heat shield structure comprising:

a plurality of layers of alternating thermally conducting material and thermally non-conducting material, said layers being disposed about said arc tube to enable a radially outward heat flow during the sealing of said arc tube.

2. (Original) The heat shield structure of claim 1, wherein said thermally conducting material comprises refractory metals.

3. (Original) The heat shield material of claim 2, wherein said thermally conducting material is selected from the group consisting of tungsten, molybdenum.

4. (Original) The heat shield structure of claim 1, wherein said thermally non-conducting material comprises, high temperature, thermally insulating materials.

5. (Original) The heat shield structure of claim 4, wherein said thermally insulating material is selected from the group consisting of argon, xenon, krypton, neon, zirconia, boron nitride, alumina, magnesia, and calcia or any mixtures thereof.

6. (Original) The heat shield structure of claim 1, further comprising a thermal contact between said heat shield and a carrier block, said carrier block holding the arc tube in place while sealing, and said thermal contact maintaining a low temperature of the arc tube body to prevent evaporation of the halide dose.

7. (Original) The heat shield structure of claim 6, wherein said carrier block comprises a cooling fluid.

8. (Original) The heat shield structure of claim 7, wherein said cooling fluid is selected from the group consisting water ethylene glycol, helium, nitrogen.

9. (Original) The heat shield structure of claim 6, wherein said thermal contact comprises physical contact of a lower layer of said conducting material of said heat shield structure with said carrier block.

10. (Original) The heat shield structure of claim 6, wherein said thermal contact comprises physical contact of a plurality of layers of said conducting material of said heat shield structure with said carrier block.

11. (Original) The heat shield structure of claim 1, wherein said arc tube comprises a ceramic tube and a pair of arc tube legs attached at respective ends of said ceramic tube.

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12. (Currently Amended) A method for ~~at least one~~ sealing at least one arc tube while preventing cracking of said tube, said method comprising:

sealing a pair of electrodes on said arc tube, said sealing being implemented using a furnace; and
implementing a heat shield adapted for reducing the thermal gradient generated in said furnace, said heat shield comprising alternating layers of thermally conducting materials and thermally non-conducting materials.

13. (Original) The method of claim 12, wherein said thermally conducting material comprises refractory metals.

14. (Original) The method of claim 13, wherein said thermally conducting material is selected from the group consisting of tungsten, molybdenum.

15. (Original) The method of claim 12, wherein said thermally non-conducting material comprises a high-temperature, thermally insulating material.

16. (Original) The method of claim 15, wherein said thermally non-conducting material is selected from the group consisting of argon, xenon, krypton, neon, zirconia, boron nitride, alumina, magnesia, calcia and any mixtures thereof.

17. (Original) The method of claim 12, further comprising maintaining thermal contact between said heat shield and a carrier block.

18. (Original) The method of claim 17, wherein said maintaining comprises maintaining physical contact of a lower layer of said conducting material of said heat shield structure with said carrier block.

19. (Original) The method of claim 17, wherein said maintaining comprises maintaining physical contact of a plurality of layers of said conducting material of said heat shield structure with said carrier block.